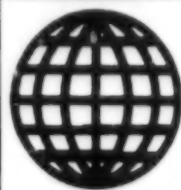


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**FOREIGN
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JPRS Report

Proliferation Issues

PROLIFERATION ISSUES

JPRS-TND-92-017

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3 June 1992

[This report contains foreign media information on issues related to worldwide proliferation and transfer activities in nuclear, chemical, and biological weapons, including delivery systems and the transfer of weapons-relevant technologies.]

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Foreign Ministry Confirms Nuclear Testing

Conducted Underground in Xinjiang

OW2205033192 Beijing XINHUA in English
0317 GMT 22 May 92

[Text] Beijing, May 22 (XINHUA)—A Chinese Foreign Ministry spokesman today confirmed that "China did conduct an underground nuclear test recently."

He was responding to a question by correspondents asking him to confirm and comment on news reports that China recently conducted an underground nuclear test in Xinjiang.

"In conformity with its basic position for complete prohibition and thorough destruction of nuclear weapons, China has exercised restraint in its nuclear testing," he said. "The number of tests it has conducted is very limited and the smallest among the five nuclear powers."

China is in favor of complete prohibition of nuclear tests within the framework of effective nuclear disarmament and will continue to work to this end, he added.

Reportedly 1,000-Kilotons

AU2105121992 Paris AFP in English 1154 GMT
21 May 92

[Text] Stockholm, May 21 (AFP)—A "very powerful" nuclear explosion rocked the Chinese Province of Xinjiang Thursday, the seismological laboratory of Uppsala University announced.

The blast reached 7.3 on the Richter scale, the laboratory said.

The 1,000-kiloton explosion came at about 0500 GMT in a region known for its nuclear tests.

No such powerful blasts have been registered in China since 1976, it added.

The blast was confirmed by the Swedish defense observatory at Hagfors.

The United States and the former Soviet Union have reached agreement that nuclear tests would not involve charges of more than 150 kilotons but China never joined the accord.

Event Kept 'Low-Key'

HK2305054392 Hong Kong TA KUNG PAO
in Chinese 23 May 92 p 2

["Political Talks Column" by Shih Chun-yu (2457 0689 3768): "The United States Should Primarily Show Restraint on the Nuclear Test Issue"]

[Text] **The Number of China's Nuclear Tests Is the Fewest**

China conducted an underground nuclear test in Xinjiang area the day before yesterday. Regarding the recent nuclear test, China has handled it in a low-key manner, refraining from propagating the event in a big way. Of course, there was no secrecy about it to speak of; any underground nuclear test at any locality can be monitored and logged overseas so long as it boasts certain explosive force. The Hong Kong Observatory recorded a seismic wave from China's Northwest on the very afternoon of the explosion, and a Swedish organ promptly determined that it was a nuclear test. The Chinese Foreign Ministry spokesman verified the nuclear test when answering reporters' questions.

Since China's first successful nuclear explosion test in 1964, it has conducted some 30 nuclear tests one after another over the past 30 years or so, with greater frequency at the initial stage, and such tests have been conducted at several-years intervals of late. As of today, the number of tests has been the fewest of the five countries possessing nuclear weapons. It is insignificant compared with the United States, which has a record of having conducted some 900 nuclear tests. Therefore, we can see that all along China has exercised great restraint in its nuclear testing.

When U.S. State Department spokesman Richard Boucher required China, which has only conducted 30-some nuclear tests, to show restraint, while saying nothing about the approximately 1,000 U.S. nuclear tests, it made no sense. Boucher even banked on the explosive strength in China's nuclear testing, saying that it exceeded the scope in the agreement between the United States and the former Soviet Union. That is absurd. China has never participated in that U.S.-USSR accord; furthermore, the United States and former Soviet Union had each conducted numerous powerful nuclear explosive tests and each built her own nuclear arsenals, which are capable of destroying the earth several times, before they decided to reduce the scope of underground nuclear tests through negotiation. Today, the general explosive force of the nuclear arms in U.S. possession is more than 100 times stronger than China's recent limited nuclear test. This being the case, the United States should be the first to show restraint.

Working Hard To Ban Nuclear Tests in a Comprehensive Way

While verifying China has conducted a nuclear test, the Chinese Foreign Ministry spokesman reaffirmed China's persistent stand, indicating that all countries should realize the goal of banning nuclear testing in a comprehensive way within the range of effective nuclear disarmament.

Since its first successful nuclear test, China has guaranteed that it will never be the first to employ nuclear weapons at any time. China will not produce voluminous

nuclear weapons that would pose threats to other countries. China already participates in the nonproliferation treaty, which bans the transfer of nuclear weapon technology to other countries.

The United States has always attached importance to the military deterrence of nuclear weapons, while paying special attention to such potentials of other countries. The United States has, for a long time, refused to make a commitment refraining from being the first to employ nuclear weapons; it has, for a long time, adopted a policy of "neither acknowledging nor denying" whether or not her Armed Forces stationed at foreign bases are equipped with nuclear weapons so that U.S. Armed Forces may pose the greatest threat under the condition of being unfathomable.

Some Science and Technology Can Be Applied to Peaceful Purposes

In the development of nuclear science and technology, China has in recent years paid greater attention to their peaceful utilization. China boasts a contingent of scientists and technicians of nuclear industry, a complete nuclear industrial system, and a tight nuclear-safety monitoring system, with quite significant accomplishments. Today, Guangdong, Jiangsu and Shanghai are planning to build nuclear power plants. Some experts suggest augmenting overall planning and developing nuclear power plants with concentrated strength.

True, nuclear explosive test and nuclear power are two different kettles of fish. But some advanced science and technology can be applied to both purposes. That is conducive to improving China's economic competitiveness and is vitally important to the country's security. Those "overlapping" science and technology are worthy of development with concentrated strength. Earlier, some people from the State Commission of Science, Technology and Industry for National Defense suggested placing key technology for economic and defense purposes on a single listing in the state plan for the research and development of new hi-tech projects to promote the improvement in comprehensive national strength. This is a good idea with successful precedents overseas.

Ultimate Aim To Ban Arms Stressed

*HK2305033492 Hong Kong MING PAO in Chinese
23 May 92 p 6*

["Special dispatch": "Nuclear Industry Senior Cadre Visiting Hong Kong Says China's Ultimate Aim Is To Ban Nuclear Weapons"]

[Text] Vice President Huang Qitao of the China Nuclear Industry Corporation, who is visiting Hong Kong, believes China's recent successful underground nuclear testing was aimed at developing nuclear weapons. But, he stressed, China's ultimate aim is to ban nuclear weapons.

On the strong reaction from the United States, Huang Qitao stated: The United States has no reason to intervene in China's nuclear testing. He said: "What has it got to do with the United States?"

According to Huang Qitao, underground nuclear testing would not cause too many problems of environmental pollution.

Huang Qitao arrived in Hong Kong not long ago. He made the above statement at a seminar on nuclear power in Hong Kong, sponsored by an international atomic energy body, when reporters asked about China's nuclear testing conducted not long ago.

Pakistani Editorial

*BK2405103992 Peshawar THE FRONTIER POST
in English 24 May 92 p 10*

[Editorial: "China Defiant"]

[Text] China has exploded a nuclear device of a million tons of TNT at Lop Nor and the shock-waves from it have reached Washington. Beijing has rejected the American protest against the explosion (it was many times bigger than the ceiling agreed in a previous Soviet-U.S. treaty) by saying that China is not bound by any treaty about tests. It has also stated that its promised signatures to the Non-Proliferation Treaty (NPT) have not actually been affixed, and therefore no other nuclear regime is applicable to it under law. The Chinese spokesman has also revived his country's old stand that all nuclear-weapon states should get together to renounce testing to get China to stop its own testing. China is considered one of the five powers whose nuclear arsenals are considered legitimate, but it has not signed the NPT. After France signed it earlier this year, China remains the only nuclear power outside of the ambit of the NPT regime meant to restrain export of bomb technology. Last year, China had agreed to sign two treaties to reassure the Western world that its nuclear arsenal was not for export: the NPT and MTC (Missile Technology Control). This promise seemed to be in return for the Most Favoured Nation status granted to it in the U.S. on whom it has a 14 billion dollars of trade surplus, in addition to a two billion dollar surplus against EC. Thereafter, the Western pressure on Beijing to open up its domestic market to American and Western exports had mounted; the U.S. had also targeted China under its Trade Law to force it to pay for the patents and other intellectual property it was using. It now appears that China has decided to defy the pressure. It seems to believe that the international environment evolving today is not friendly towards it, and that its security might be threatened by a policy of persistent submission to pressures from outside. While the Chinese leadership is steadily adopting free-market mechanisms to improve the country's economy, it is threatened by internal calls for more democratic freedom. Seeing the upheavals caused by democratisation and free market in Eastern Europe and the Balkans, it may be fearing similar

upheavals in regions inhabited by non-Chinese populations after the loosening of the central control by its communist leadership.

This is a reversal to the post-Gulf war Western policy of international arms control. China's ambiguous stance on the NPT will strengthen the Indian resolve to stand aside from it unless the NPT gives it nuclear power status. Its stance on the universal removal of nuclear arsenals and test ban is similar to China's. New Delhi has shocked the West by the successful launching of its first space vehicle and is poised to test its intermediate range missile Agni which can carry nuclear payload. India too has been under pressure from the West and the U.S. to renounce its nuclear ambitions, stop the development of missiles and pay for American patents under the trade law. Pakistan, which fears war with India, has also been defying the American pressure to unilaterally renounce its nuclear ambitions and open its programme to full safeguards under the NPT. The deadlock was sought to be resolved through a five-power multilateral conference on a nuclear regime for South Asia which India has been rejecting so far. The pressure behind this multilateral conference was built up through a consensus reached by Washington with Russia and China. Russians too are beginning to get out of this consensus by refusing to accept an American embargo on the export of its missiles to India. This "revolt" may have adverse effect on the readiness of North Korea to open all its nuclear installations to inspection, which it has so far refused. Two instances of nuclear renunciation, one by South Africa and the other recently by Kazakhstan, might therefore not take root as precedents in the policy of freeing the world of proliferation. China's latest stance seems to be a defiant answer to excessive manipulation by the Americans in the realm of Chinese economic policy and politics of democracy. At home, the American President is facing an increasingly angry electorate which connects domestic economic decline to Washington's excessive involvement abroad under the rubric of New World Order. The world seems to prove that the bipolar cold war era is gradually giving way to a multipolar era without any rules of the game. The coming years promise a great deal of disturbance as global trade gets divided among blocs and some countries endeavour to realise their big power dreams in various regions.

Commentary Examines World Nuclear Disarmament

HK2705105192 Hong Kong LIAOWANG OVERSEAS EDITION in Chinese No 21, 25 May 92 p 26

[*"International commentary" by Shi Jinkun (4258 6930 0981): "Strive To Promote Process of Nuclear Disarmament"*]

[*Text*] The end of the tense confrontation between the two military blocs provides an extremely favorable condition for the realization of nuclear disarmament in the world. Accelerating the process of nuclear disarmament

and safeguarding world peace and security are the urgent tasks of the international community at the moment.

The primary responsibility for carrying out nuclear disarmament still lies with countries with the world's biggest nuclear arsenal, namely: The United States and Russia. Both countries are presently redefining their military strategies and their combat targets based on the distinctive features of the new situation as they both need to carry out a certain degree of nuclear disarmament in line with their own strategic interests and in order to reduce the unbearable and enormous costs of nuclear armament. The reduction plans presented by the United States and Russia on 28 and 29 January this year represent considerable improvements over their past positions. But looking at the substantive parts of their proposals, the intentions of the United States and Russia are still vastly different from one another: The United States wants to take advantage of the collapse of the Soviet Union to undermine further the remaining nuclear forces of the former Soviet Union and eliminate the potential danger of nuclear proliferation stemming from the nuclear arsenal of the former Soviet Union as a result of the latter's disintegration. Meanwhile, the Russian Federation [as published] is deliberately evading the United States' precondition that the Commonwealth of Independent States [CIS] destroy all land-based multiple warhead ballistic missiles before the United States reduces its nuclear arsenal any further. Instead, it proposes that the offensive strategic weapons left over from cutbacks by the two sides should not be pointed at each other as a way to lure the United States into allowing Russia to keep the backbone of its strategic nuclear forces. It is not difficult to see that while the United States and Russia would like to carry out a greater degree of nuclear disarmament, what they want to remove are their own outdated weapons or those which are not as advanced as the other side's.

Aside from expressing a cautious welcome of their proposals, the different countries of the world still maintain their reservations as they wait to see how the proposals will be implemented. France has indicated that it will only consider taking part in the nuclear disarmament process when the United States and Russia have cut down their respective nuclear arsenals to the level of France's nuclear arsenal. Meanwhile, Britain claimed that it will stick to its plan to purchase four new Trident strategic missile systems. Britain's Defense Minister Tom King asserted that in the next 10 to 15 and even 20 years, "the territory of the former Soviet Union is bound to produce a huge amount of nuclear weapons," hence, Britain's development of its strategic nuclear force is a necessary "defensive measure" taken against this eventuality. On the other hand, many nonnuclear countries maintain that while the nuclear disarmament plans of the United States and Russia are proceeding rapidly, they are still at a bargaining stage, and even if an agreement should be reached, it would still fall far behind the level of genuine and massive destruction of nuclear weapons as demanded by the international community.

As China has always advocated comprehensive and total nuclear disarmament, it believes that in the case of the U.S. and Russian efforts to reduce their nuclear arsenal, it is better to cut back than not to cut back at all and to cut back more than to cut back less. Over the years, China has always indicated its willingness to join the different countries of the world in promoting the process of nuclear disarmament. In recent times, it even actively adopted a series of new measures to promote nuclear disarmament and arms control. Last 29 December, the Standing Committee of the National People's Congress of China adopted the following resolution: China is to accede to the Treaty on the Nonproliferation of Nuclear Weapons, demonstrating once more to the world that China does not advocate, encourage, or engage in nuclear proliferation, nor does it help other countries develop nuclear weapons. On the export of nuclear materials intended for civilian use, China has also always accepted supervision by the International Atomic Energy Agency. On 27 April this year, China's ambassador to the disarmament conference Hou Zhitong submitted an official working document to the UN Commission on Disarmament where he outlined ten steps and six necessary conditions to boost the process of international nuclear disarmament.

The two countries with the biggest nuclear arsenals are duty-bound to take the lead in carrying out massive nuclear disarmament. The reason is that even if both the United States and Russia make good their latest proposals on nuclear disarmament, the move will not affect in the least their status as nuclear superpowers. Even if they destroy 4,000 or 2,500 warheads, the combined nuclear weapons of these two countries will still make up a greater portion of the total number of strategic nuclear warheads in the world while they will still possess "super kill" powers enough to blow up the world several times. Mankind does not thus eliminate the threats of a nuclear war. Therefore, looking simply from the perspective of quantitative reduction, both the United States and Russia should at least reduce and destroy the greater part of their nuclear arsenals, and lower the number of remaining nuclear weapons to a level comparable with those of medium nuclear states. Meanwhile, the nuclear

weapons of all nuclear states should be kept to a level consistent with the defensive purpose of containing a nuclear war.

Reducing the quantity of nuclear weapons is not the final objective, as the final objective should be the total ban and thorough destruction of nuclear weapons. Before achieving the aforementioned objective, the countries with the biggest nuclear arsenal should be asked to accomplish the "three ends" simultaneous with their drastic reduction of nuclear weapons in order to prevent the eruption of a nuclear war: Put an end to the testing, production, and deployment of nuclear weapons. In other words, the nuclear superpowers should renounce the attempt to achieve nuclear superiority not only in terms of quantity but also of quality. The "three ends" and "one reduction [of nuclear weapons]" is a complete concept which should not be taken apart. Based on this concept, the nuclear superpowers cannot prove their sincerity on nuclear disarmament to the world. Hence, the time to convene an international disarmament conference which will discuss the joint reduction of nuclear weapons by all nuclear states will only be truly ripe when the "three ends" and "one reductions" have been accomplished.

It is necessary to create a peaceful and stable international environment in order to contribute to the realization of an effective nuclear disarmament. In this world where we live, the cold war pattern may have come to an end, but regional conflicts have mushroomed; economic, territorial, ethnic, and religious contradictions remain very complicated; and in particular, acts of blatant hegemonism and disrespect for the territorial sovereignty of other countries are all turning into factors which could provoke an arms race. All countries should respect each other's sovereign rights, treat each other on equal terms and coexist peacefully, refrain from interference in other country's internal affairs, oppose the use of force and the threat of use of force in international relations, and settle disputes between states in a peaceful way. If these principles are respected, then it could create a favorable international climate needed to expedite the nuclear disarmament process.

SOUTH KOREA

IAEA To Inspect North's Nuclear Facilities

Fourteen Sites Targeted

SK2505152192 Seoul KBS-1 Television Network
in Korean 1220 GMT 25 May 92

[Report by Chong Chang-hun]

[Text] The International Atomic Energy Agency [IAEA] will inspect a total of 14 nuclear facilities. However, the 14 facilities are those that North Korea presented as the targets of inspection. Therefore, the current inspection will be limited in its ability to find the truth about North Korea's nuclear program. Reporter Chong Chang-hun reports:

[Begin recording] [Chong Chang-hun] The focus of the IAEA inspection is the radiation chemistry laboratory at Yongbyon, which was found to be a nuclear reprocessing facility during the visit to North Korea by IAEA Director General Hans Blix. North Korea had concealed the presence of this facility, 80 percent of whose construction has been completed, until 4 May when it handed in its first report. The 14 facilities North Korea reported to the IAEA include the radiation chemistry laboratory at Yongbyon, two nuclear fuel rod manufacturing and storing facilities at Yongbyon, a five-megawatt experimental nuclear reactor for generating power, a 50-megawatt nuclear power plant under construction at Yongbyon, and a 200-megawatt nuclear power plant under construction in Taechon, North Pyongan Province. They also include two uranium mines and uranium refineries in Pyongsan and Pakchon.

It is generally pointed out that, because the IAEA's nuclear inspection is limited in its ability to prevent nuclear development, as has been proven in Iraq, the inspection of North Korean facilities will make it difficult to completely remove suspicions about North Korea's nuclear weapons development.

[Yun Tok-min, professor of the Institute of Foreign Affairs and National Security] If North Korea has hidden nuclear facilities that it has not made public, I think North-South mutual inspection is necessary to find them out. This will make up for the weak points of the IAEA's inspection system. [end recording]

Accordingly, the ROK Government, believing that not only special inspection but also North-South mutual inspection must be conducted without fail, is planning to continue negotiations on the nuclear issue for mutual inspection by the middle of June as the North and South have agreed.

Termed 'Insufficient'

SK2505150492 Seoul KBS-1 Television Network
in Korean 1217 GMT 25 May 92

[Report by correspondent Cha Man-sun from Vienna]

[Text] The United Nations inspection of major North Korean nuclear facilities will virtually start today. The ad hoc nuclear inspection by the International Atomic Energy Agency [IAEA] experts will identify nuclear facilities and nuclear materials from the list North Korea has presented. It is believed that full-scale inspection will be conducted after July. Correspondent Cha Man-sun reports from Vienna:

[Begin Cha Man-sun recording] The IAEA's ad hoc nuclear inspection of North Korea which will start today is expected to be insufficient for completely dispelling doubts about North Korea's nuclear program. Still, since this is the first inspection by nuclear experts, its results will be noteworthy because this inspection will be a general ad hoc inspection designed to identify the Yongbyon nuclear complex and other important facilities.

Even if the IAEA inspectors examine the radiation chemistry laboratory, which is considered to be a nuclear reprocessing facility, they will examine only its scale but will not be able to examine how efficient this facility is. Experts say that due to the lack of information on new North Korean nuclear facilities, it would be difficult to completely examine North Korea's nuclear program.

Based on the results of the visit to North Korea by Director General Hans Blix and the report from the current inspection, the IAEA will write a report on the status of North Korea's implementation of the Nuclear Safeguards Accord and give the report to its Executive Council meeting to be held on 15 June, however. The IAEA, in particular, will conclude a supplementary agreement with North Korea, an agreement that stipulates concrete inspection procedures and methods; report it to the September Executive Council meeting; and hold concrete discussions on the annual general inspection. [end recording]

Spokesman Gives Assessment

SK2805111692 Seoul YONHAP in English 1100 GMT
28 May 92

[Text] Seoul, May 28 (YONHAP)—North Korea is believed to have picked up some 130 to 180 tons of nuclear waste from its second nuclear reactor, an amount sufficient enough to produce at least 15 kilograms of plutonium extract, a South Korean delegate to the inter-Korean high-level talks said Thursday.

Yi Tong-pok, spokesman for the southern side of the prime ministers' talks, told reporters that his estimation was based on information the government had obtained. The second North Korean reactor, a 30-megawatt-class one, has been in operation since 1987.

Turning to inter-Korean discussion on nuclear inspection regime, that hit a snag Wednesday, Yi said, "The South Korean Government will first watch the results of the International Atomic Energy Agency's [IAEA] inspection and then take countermeasures."

But he claimed that the IAEA's inspection would not be instrumental enough in uncovering a nuclear weapons program as it would primarily be focused on the processing of nuclear materials used for industrial purposes.

"In this context," Yi added, "the proposed inter-Korean mutual inspection is a must for North Korea to dispel the high-running suspicion about its possible nuclear ambition."

Yi said the Seoul government, however, would not let the deadlock of the nuclear talks hamper the high-level talks and family reunion programs.

Yi ruled out possible discord between Seoul and Washington over the nuclear issue, saying there had been no pressure from the United States with regard to the inter-Korean nuclear talks.

INDIA

Reports on Test-Firing of 'Agni' Missile

Set for 29 May

BK2805025892 Delhi All India Radio Network
in English 0245 GMT 28 May 92

[Text] The second test firing of India's intermediate-range surface-to-surface missile—Agni—is all set to take place tomorrow [29 May] at the missile range at Chandipur in Orissa. This will be the second major flight of the missile to test its system. Earlier, Agni, with a 2,500-km range, was successfully flight tested in 1989, which put India among the six nations possessing the IRBM launch technology. Agni has a two-stage rocket system and is boosted by an indigenously-built satellite launch vehicle.

China Previews Test

OW2405050492 Beijing XINHUA in English
0404 GMT 24 May 92

[Text] New Delhi, May 24 (XINHUA)—India is to test its first ballistic surface-to-surface missile "Agni" again between May 27 and 30, local press today quoted official sources as saying.

The indigenous, intermediate range (approximately 2,500 km) ballistic missile, is to be test-launched near Balasore, eastern coastal state of Orissa.

"Agni" was successfully test-launched in May 1989, making landmark in India's missile development.

'Successfully' Launched

BK2905075092 Delhi All India Radio Network
in English 0730 GMT 29 May 92

[Text] The second test flight of India's intermediate range ballistic missile—Agni—was successfully launched from the interim test range at Chandipur in Orissa this morning. The missile launching took place around 0815 [0345 GMT] under fine weather conditions.

The defense minister, Mr. Sharad Pawar; the Orissa chief minister, Mr. Biju Patnaik; the chiefs of the three armed forces, top defense scientists Dr. Abdul Kalam and Dr. Arunachalam and scientists from the DRDL [Defense Research and Development Laboratory] were present at the time of the blast off. The scientists of the defense research and development organizations described the flight mission as a success soon after the 2,500-km range surface-to-surface missile with two-stage rocket system blasted off into the sky. The 19 meter long 40-ton missile followed the charted course. DRDL sources said the missile was boosted by the indigenously-developed augmented satellite launch vehicle. Solid fuel was used for the first stage and liquid fuel for the second and re-entry stages.

The Agni had been successfully test fired from Chandipur three years ago.

Defense Minister Notes 'Prowess'

OW2905085792 Beijing XINHUA in English
0741 GMT 29 May 92

["Roundup" feature by Zhan Dexiong]

[Text] New Delhi, May 29 (XINHUA)—India successfully carried out the second test-flight of its intermediate range ballistic missile "Agni" (fire) this morning.

The missile, which has a two-stage rocket system boosted by the country's indigenous augmented satellite launch vehicle (ASLV-3) and uses solid fuel for the first stage and liquid fuel for the second re-entry stage, was first launched on May 22, 1989.

The Agni is the biggest and longest range missile being developed by the Indian Defense Research and Development Laboratory at Hyderabad, south India, under the integrated guided missile development program launched in 1983.

In addition to "Agni," there are four other missiles being at various stages of development under the program. They are Prithvi (earth), Trishul (trident), Akash (sky) and Nag (snake).

"Agni" is a state-of-the-art missile capable of delivering an approximately one ton weapon payload to a distance of 2,500 kilometers.

Only five countries—the U.S., Russia, France, China and Israel—have developed intermediate range ballistic missile (IRBM) with a range of 500 km to 5,500 km.

"Prithvi" is a mobile-launched medium range missile with a range of 250 kilometers and a warhead of 250 kilogram. It is mounted on an eight-wheeled truck. The missile system has already undergone five test trials.

"Trishul" for the Air Force is a low level quick reaction short-range surface-to-air missile. It has already undergone over a dozen trial flights successfully.

"Akash" is another system for the air force. The medium-range surface-to-air missile system has multi-target handling capability.

"Nag" is an anti-tank missile which had undergone eighth successful flight trial last year. It is designed to defeat all futuristic armor, including reactive armors of ranges up to 4 kilometers. A unique feature of this missile system is that it can be put on wheeled vehicles and helicopters for quick deployment.

Observers here noted that today's test of Agni is undertaken following the U.S. sanction this month on India and Russia for a contract between them to provide a cryogenic rocket engine to India.

Indian Defense Minister Sharad Pawar said at a function in Maharashtra State on Thursday that India would not give up pursuit of advanced space and missile technologies even if she was shunned by technologically developed countries.

Without naming the United States, Pawar said some powers were trying to halt India's march towards acquiring advanced technologies vital for national security.

He expressed confidence in the expertise of the Indian scientists and added the Agni's success would exhibit nation's prowess in the missile technology to the world.

Commentary on Space Achievements

BK2205143692 Delhi All India Radio General Overseas Service in English 1010 GMT 22 May 92

[Commentary by Meeta Sanghvi, the special correspondent of THE MATHRUBHUMI: 'India's Satellite Put Into Orbit']

[Text] India on Wednesday [20 May] successfully launched the Augmented Satellite Launch Vehicle [ASLV] which put a SROSS [Stretched Rohini Satellite Series] satellite into a 450-km-high orbit. The launch of the 23.8 meter tall rocket, the third developmental version of the ASLV, took place at Sriharikota Rocket Launching Station of the Indian Space Research Organization [ISRO] in Andhra Pradesh. The SROSS payload will conduct scientific experiments.

The success of the ASLV in placing a 106-kg satellite—SROSS—in orbit comes at the most opportune moment in India's space history. It convincingly demonstrates to the world that there can be no stopping Indian space scientists from developing an indigenous capability to put heavier satellites into orbits higher than 450 km with their own launch vehicles, the U.S. Government's restrictions and pressures notwithstanding.

To the hawks of U.S. policymakers advising Washington for getting tough with this country, using future sale of Russian cryogenic rocket engines as a pretext, the satellite launch must come as a stark evidence of India's growing capability. Surely, U.S. policymakers could not have been unaware that they were on unsure ground in imposing restrictions on ISRO, ostensibly under the Missile Technology Control Regime at a time when India's space technology had apparently come of age. Also that any precipitate action against India would only inspire its highly motivated scientific community into redoubling its efforts toward achieving self-reliance in this particular discipline.

It is really a matter of great pride for the Indian scientists who have indigenously designed the whole satellite. In fact, no one from anywhere would have given us any help in this project. The satellite is orbiting the earth once every 92 minutes and is being tracked from Sriharikota in coastal Andhra Pradesh, the Vikram Sarabhai Space

Center in Trivandrum, and the Car Nicobar Islands. The telemetry received shows that the satellite is performing as expected. The third successful developmental flight of ASLV comes after two failures of the rockets in the same series. The first launch on 24 March 1987 was abortive as the first stage motor failed to ignite. The second flight on 13 July 1988 failed following the collapse of control system. It was after these two failures that ISRO incorporated some modifications in the ASLV. These were based on the recommendations of an expert review panel and the failure analysis committee.

ASLV is designed to augment indigenous satellite launch capability and put 150-kg class satellites into low earth orbits. It is a parallel to the Scout class rockets launched by the United States of America. The five-stage rocket has two strap-on motors [and] gyrostats. It uses solid propellants as did its predecessors—the SLV series of rockets. It incorporates major technological elements, such as close loops guidance schemes, bulbous heat shield, S-band telemetry, tracking and command and navigational computers. SROSS-C is carrying two payloads—the gamma ray burst experiment to study celestial (?bursts) in the energy range of 20 kilowatt to 300 kilowatt and the retarding potential analyzer of the National Physical Laboratory. The satellite has mounted and deployable solar panels.

The next step now would be to launch vehicles, such as the Polar Satellite Launch Vehicle, which can place into space 1,000-kg satellites, such as the Indian Remote Sensing Satellite; and the Geosynchronous Satellite Launch Vehicles and 2,500-kg satellites, such as those of the INSAT-2 series.

The successful launch of the ASLV is a morale booster for Indian space scientists, coming as it does when they face a two-year technology embargo slapped by the United States of America. The space (?experts) at various centers of the ISRO in the country have reasons to be jubilant as their success has established India's capability in developing launch vehicles. The space scientists have been lauded by fellow scientists at this silicon plateau. The Indian Institute of Science director, Mr. C.N.R. Rao, said it is very good. This should have happened some time ago. New Delhi need not fall into the trap of a debate on whether its missile development plans are either civilian or military in nature. All that is needed is that Professor U.R. Rao of ISRO and Dr. Abdul Kalam of DRDO [Defense Research and Development Organization] and their teams get the necessary assistance and encouragement for unhindered work on space ventures.

Russian Rocket Engine Supply 'Assured'

BK2505155392 Delhi All India Radio Network in English 1530 GMT 25 May 92

[Text] The chairman of the Indian Space Research Organization, ISRO, Professor U.R. Rao today said Russia has assured India that it will honor the contract for the transfer of cryogenic rocket technology despite

American opposition. Talking to newsmen at the Vikram Sarabhai Space Center at Tumba, he said if any difficulty arises India will work out its contingency plan.

PAKISTAN

Reports on Opening of Upgraded Research Reactor

Inauguration Previewed

BK2105133992 Islamabad THE PAKISTAN TIMES
in English 21 May 92 p 6

[Text] Islamabad, May, 20—The President, Mr. Ghulam Ishaq Khan will inaugurate the redesigned and upgraded research reactor at the Pakistan Institute of Nuclear Science and Technology [PINSTECH] on Monday May 25.

The 5 megawatt research reactor, installed in 1966, operated as a major research facility for almost 25 years. However, due to embargo on the supply of highly enriched uranium fuel, it was decided to convert the reactor to low enriched uranium and simultaneously upgrade its power from 5 MW to 10 MW as well as extend the life of the reactor for another 25 years. Accordingly, a major design effort was mounted by PAEC [Pakistan Atomic Energy Commission] scientists and engineers and the reactor was successfully redesigned and upgraded.

The new reactor went critical on October 31, last year and achieved full power on the 7th of this month marking a significant step toward Pakistan Atomic Energy Commission's indigenisation effort in the field of reactor technology.

The inauguration of the reactor is taking place on the occasion of 25 years of research activities at PINSTECH. The President will preside over the Silver Jubilee function at the Institute.

Over the years, PINSTECH has emerged as the premier research Institute and has made notable contribution towards the implementation of country's nuclear programme. The Institute has kept pace with the latest trends in sophisticated disciplines like nuclear physics, nuclear chemistry, environmental science, hydrology, nuclear engineering, computers, materials science and radioisotope production and application. The Institute has the largest collection of the scientific literature in the country and has at its premises a full fledged centre for training its own scientists and engineers.

Redesign, Upgrade Detailed

BK2405145292 Islamabad PTV Television Network
in English 1400 GMT 24 May 92

[Text] Scientists and engineers of Pakistan Atomic Energy Commission have successfully designed and upgraded the five megawatt research reactor at the

Pakistan Institute of Nuclear Science and Technology—PINSTECH—the silver jubilee of which is being celebrated tomorrow. In an interview with PTV correspondent Sarwar Munir Rauf, the chairman of Pakistan Atomic Energy Commission, Dr. Ashfaq Ahmad, spoke about PINSTECH.

[Begin Ashfaq Ahmad recording] The main facility here, as you know, was a five megawatt research reactor which was made available to us in 1966. It was nearing the end of its design life and we thought that we should work and build a new reactor in the same (set of) structure. And we have, therefore, designed and built a reactor which is now going to operate at 10 megawatts and will remain available for another 20 to 25 years. I can say that PINSTECH is not only one of the important research centers in the entire Third World but it has no parallel in the entire Islamic world [end recording].

Khan Addresses Jubilee Ceremony

BK2505163492 Islamabad PTV Television Network
in English 1400 GMT 25 May 92

[Text] The president, Mr. Ghulam Ishaq Khan, has said that Pakistan's nuclear program is designed to meet its pressing energy requirements and to derive other associated benefits with the development in the use of nuclear technology. The president was inaugurating the 10-megawatt nuclear research reactor at a ceremony held to mark the silver jubilee celebrations of the Pakistan Institute of Nuclear Science and Technology [PINSTECH] near Islamabad today. Highlighting the objective of peaceful nuclear program, Mr. Ghulam Ishaq Khan said Pakistan's quest for acquisition of modern technology is motivated solely by its desire to modernize its society, develop national resources, accelerate ... [announcer's voice fades into Ishaq Khan recording]

[Begin Ishaq Khan recording] [Words indistinct] with its commitment to nonproliferation, Pakistan will not transfer sensitive nuclear technology to a third country. A program is designed to meet our pressing energy requirements and to derive other benefits associated with the development in use of nuclear technology. It would be unfair and unrealistic to expect Pakistan to unilaterally forego the development of its peaceful nuclear program and capabilities in response to so-called nonproliferation pleas. We deem it a sovereign right of nations to develop the entire gamut of nuclear technology for peaceful purposes. However, we have taken a political decision to use this technical capability for peaceful purposes only. [applause] [end recording]

He said Pakistan does not believe in the spread of fire. Pakistan is among the first nations to support the nuclear nonproliferation treaty. Its commitment to nonproliferation even today is no less serious and genuine than anybody else's. He said Pakistan believes that the cherished and noble goal of nonproliferation must not degenerate into essay in evolving a technical fix or ploy to

eternize technological imperialism denying the fruits of science to those who generally want to use them for peaceful purposes.

Earlier, the director of PINSTECH, Dr. (N.M. Bhat) said that the entire upgradation and rebuilding of the reactor was completed in a period of one year and would serve as a major facility for next 25 years.

The chairman of Pakistan Energy Commission, Dr. Ashfaq Ahmed, in his address of welcome said the commission is making intensive efforts to develop the necessary infrastructure and enhance capability for achieving self-reliance in the designing, engineering, and manufacture of nuclear power plants. The president awarded four gold medals to the outstanding scientists for their contribution in nuclear research at PINSTECH. They are: Mr. Khalid Mahmud Akhtar, Dr. Hamid Ahmad Khan, Mr. Ghulam Hussain, and Mr. Asif Usman. The president also conferred 82 awards on the scientists, engineers, and other persons who rendered meritorious services in research.

The president inaugurated the 10-megawatt nuclear research reactor to mark the completion of 25 years of scientific activities at PINSTECH.

Commemorates S&T Institute

BA2605124792 Islamabad THE PAKISTAN TIMES
in English 26 May 92 pp 1, 2

[Text of speech by President Ghulam Ishaq Khan at the Pakistan Institute of Nuclear Science and Technology Islamabad, 25 May]

[Text] It is indeed a pleasure to visit this great institute set against such beautiful surroundings, and to join you on this happy occasion of commemoration of 25 years of scientific activity at PINSTECH [Pakistan Institute of Nuclear Science and Technology].

The nuclear scientists present here will recall that this year also marks the 50th anniversary of the Manhattan Project which was conceived to harness the enormous potential of nuclear fission for the production of a decisive weapon to put a swift end to a dreadful war. In contrast, the *raison d'être* of PINSTECH ab initio was to put the newly demonstrated power of atom to peaceful uses. And this, as we have just heard, has done with notable success.

I am looking forward to inaugurating today your re-designed and rejuvenated research reactor which would now operate at enhanced power and continue to serve as a major facility for many more years to come.

I am of course, no stranger here and your achievements are not unknown to me. I have always taken pride in PINSTECH's being a beacon for the country's scientific and technological endeavours and especially in the remarkable manner in which it has helped nourish, sustain and advance our peaceful nuclear programme. Deserving of special mention is the signal contribution it

has made to the Commission's pioneering effort to develop fuel cycle facilities. The establishment of these facilities was a hi-tech venture. Starting with mining of uranium and zirconium, it involved sophisticated processes of refining, processing, physical and chemical characterization, summarizing in the domestic manufacture of fuel for research and power reactors. I understand that the industrial use of radiation processing, which has been commercialised at PARAS in Lahore, also owes its basic development to PINSTECH. You have indeed served as a 'Mother Institute' and supplied manpower, expertise and information to all the nuclear establishments in the country and I add with pride, blossomed, over the years, into an outstanding centre of nuclear research, a proud parallel in the entire Muslim world.

And today, when PINSTECH has successfully accomplished the scientific and technological feat of upgradation of its 10-megawatt research reactor and its conversion to operate on low enriched uranium, I—indeed the entire nation—draw from it an additional reason to be justifiably proud of the ingenuity, dexterity, expertise and meticulous commitment of scientists and engineers. It is indeed an achievement of far-reaching significance and a major milestone in the indigenous development of nuclear technology that the entire design and construction work, including control and instrumentation, was undertaken locally and in complete secrecy—completed in a record time of about one year. This success is indicative of our ability and capacity to undertake highly sophisticated scientific projects of our own. Such an achievement assumes particular importance when viewed in the context of an international environment where our science and technologies are kept close to the chest and cooperating wings are attached to their transfer. Better and more fruitful relations to all those associated with this achievement of tremendous import.

It is said that we are all born out of man's curiosity to know the nature of things around him and to understand events taking place in the universe. While this curiosity is natural to mankind, it is much more intense among the Muslims by their religion which repeatedly exhorts them to think and reflect, mystery to comprehend the wonders and secrets of the cosmos and of biological existence—human's inclination for scientific investigation served as a catalyst for the Muslim's spirit of enquiry and their urge for discovery. In the heydays of their civilisation, the Muslim's revolutionary contribution to scientific thought and achievement came when elsewhere the pursuit of science was considered a taboo and punished like witch-hunt. Their contribution is fairly well documented and it is now recognised that from the eighth to the twelfth centuries the Muslims played a pioneering role and laid the foundations of "observational" and "experimental" methodology.

But what a contrast between our past and the present! As I had pointed out at the COMSTECH [Committee on Science and Technology of Islamic Conference Organization] meeting two years ago, those who liberated the human mind and taught men to think rationally and scientifically gave themselves freedom from prisoners of frivolous

thoughts, fatalistic attitudes and suffocating inaction. Those who led the world in the Medieval Age have lagged behind even in following it into the Modern Age. They have few science institutions. They invest little in scientific research. Their share in the growth of modern science and technology is minimal.

To illustrate how dismally the Muslims have detached themselves from science and technology let me repeat here some of the statistics I quoted at the COMSTECH meeting. The Islamic World today has only one scientist per thousand of population as against 100 in the former USSR, 50 in Western Europe and the world average of four. Of all the scientists and technologists currently engaged worldwide in Research and Development, almost 94 per cent work for the developed nations, giving them an average of around 2,600 per million of population as compared to less than 100 in the Islamic World. Of the total world investment in R&D nearly 97 per cent is made by the advanced countries and only about one percent by Muslim nations despite the so-called oil wealth. Of the estimated one hundred thousand scientific books and over two million articles produced in the world every year, the share of all Muslim countries taken together is only little over a thousand publications, most of them, I believe are published in Pakistan.

Against this desolate backdrop of apathy and indifference towards scientific pursuits prevalent in the Muslim World, it should give us some satisfaction that the unmistakable relevance to development of scientific education and research and the inescapable urgency to produce qualified scientific manpower are increasingly gaining practical appreciation in Pakistan. I must hasten to add that this appreciation still has a long way to go to create the mental climate and cultural ambience needed to engender a scientific and technological revolution. Without such a metamorphosis we may not be able to repay the outstanding debts of the twentieth century. What to speak of meeting the challenges of the twenty-first.

However, it augurs well for a confident future that an elaborate programme has been launched for the last few years to train young scientists and engineers abroad in hi-tech fields to augment and upgrade the science and technology potential of the country. There are of course, islands of excellence within the country as well. Some fine educational institutions, such as HEJ Institute of Chemistry. And certain research Laboratories and Institutes like PINSTECH and the neighbouring Centre for Nuclear Studies stand out as shining examples of what can be accomplished by dynamic leadership, enlightened direction and dedicated workers. The under-construction Institute of Engineering Sciences and Technology near Tarbela is expected to be a most valuable addition to the nation's efforts at human resource development in the field of science and technology.

Pakistan's quest for acquisition of modern technology is motivated solely by its desire to modernise its society,

develop national resources, accelerate economic growth and improve human conditions. This desire stems from our right as a sovereign state and is rooted in our obligation to give our people a better life. It is a perfectly legitimate desire to which no one-unless he has a totally perverse sense of justice-can object. Science is an international activity. It knows no boundaries and cannot be the exclusive prerogative of a selected few. The vast fund of knowledge accumulated by mankind through centuries of mental application, research and experience is humanity's common heritage. Not every nation has rediscovered the wheel to itself. Practically all knowledge is inherited, borrowed, copied or even stolen from a reservoir that belongs to all mankind. Access to it must not be denied to any people or else human civilisation will come to stagnate. If humanity is to keep marching ahead in peace and harmony, as has been the ardour of all its best sons and daughters, attempts at locking knowledge in safe deposit vaults will have to be renounced. If the inequities that divide the world into zones of affluence and deprivation, causing constant friction, are not intended to be eternally perpetuated, the highly possessive attitude of the 'Haves' towards transfer of technology will have to be eschewed. If a new "kinder" and "gentler" world order is really sought to be created hearts and minds will have to be "opener" and helping hands stretched farther.

A less-possessive, if not generous, attitude is particularly needed towards technologies which have proven capability to solve some of the most daunting problems hampering socio economic development in Third World countries. Nuclear technology tops the list. The miracles it can work in such fields as power generation, agricultural productivity and medical care and as a cleaner and plentiful substitute generally for fossil fuels are too well known to need elaboration. Equally well known is the inexorable opposition to the developing nations' access to it even for such peaceful usages as are common place phenomena in developed countries. The stock excuse is that it can be abused for military purposes. But then which technology cannot be put to dual use and has not been so abused? Should the black smith's kiln be put out because, together with horseshoes, it can also help cast swords? If Hiroshima was the fearsome statement of the destructive power of nuclear fission, its constructive capabilities are no less convincingly demonstrated in well-lit houses, in pollution-free factories, in blooming agricultural fields and in healing hospitals. Hiroshimas and Nagasakis must never happen again. But the houses, the factories, the fields and the hospitals must not be deprived of what they so desperately need.

Why should the poor of the Third World be punished for sins they never committed? The bombs that devastated Hiroshima and flattened Nagasaki were not hatched by the "unstable countries" and the "irresponsible minds" of the Third World Leader who, on receiving a telegram on board the cruiser Augusta informing him that the attack on Hiroshima was a complete success, exclaimed: "This is the greatest thing. It is time to return home!"

Not all shared such amoral elation on having put a weapon of incalculable power into the hands of man. As Bertrand Russell tells us, about two months before Hiroshima, "seven of the most eminent of nuclear scientists drew up what is known as 'The Franck Report' which they presented to the Secretary of War.... If it had won the assent of politicians, none of our subsequent terrors would have arisen. It points out that the success which we (the Americans) have achieved in the development of nuclear power is fraught with infinitely greater dangers than were all the inventions of the past.... If no efficient international agreement is achieved, the race for nuclear armaments will be on in earnest, not later than the morning after our first demonstration of the existence of nuclear weapons. After this, it might take other nations three or four years to over come our present head start." This was not an isolated expression of opinion. It was a majority opinion among those who had created the bomb. Neils Bohr—after Einstein, the most eminent of physicists at that time—approached both Churchill and Roosevelt with earnest appeals in the same sense, but neither paid any attention. When Roosevelt died, Bohr's appeal lay unopened on his desk."

The point I wish to make is that those who could have spared mankind its worst fears did not listen to the voice of sanity when it was time. And now that the horse has bolted out of the stable, attempts are being made to close the stable doors—through embargoes, arm twistings and 'surgical operations'. It has however, to be realised that no effort can uninvent what has been invented. Prometheus might have been punished for ever but 'Fire' as a phenomenon continues to exist.

Pakistan does not believe in the spread of fire. Pakistan was among the first nations to support the Nuclear Non-Proliferation Treaty. Its commitment to non-proliferation even today is no less serious and genuine than anybody else's. However, we believe that the cherished and noble goal of non-proliferation must not degenerate into an essay in evolving a technical fix or a ploy to eternalise technological imperialism, denying the fruits of science to those who genuinely want to use them for peaceful purposes.

The answer to nuclear proliferation does not lie in putting the technology under a bushel. It lies in removing the causes of tension in inter-state relations and in creating a sense of security among all through non-discriminatory measures and even-handed policies based on the principles of justice and equal respect for sovereignty. I cannot resist the temptation to quote here the last sentence of Richard Nixon's latest book "Seize the Moment". He advises: We must seize the moment not just for ourselves but for others. Only if this becomes a better world for others will it be a better world for us, and only when we participate in a cause greater than ourselves can we be fully true to ourselves. Let's hope his great nation listens to his words of great wisdom.

Here I must offer our special thanks to those of our friends who have shown full confidence in Pakistan's sense of responsibility and its commitment to use nuclear energy for peaceful purposes. The recently concluded agreement under which China has contracted to supply a 300-MW nuclear power plant to Pakistan, under IAEA safeguards, is a major step forward in the development of nuclear power which is badly needed to supplement our conventional energy resources and also to provide a measure of diversification in power generation technology. Although it is largely a turn-key contract, I understand that transfer of technology has been specifically provided for, and there would be substantial participation of Pakistan's engineers, scientists and technical staff in the design and construction of the plant. This experience, coupled with that gained at KANUPP [Karachi Nuclear Power Plant] and here at PINSTECH, will provide us expertise as well as the confidence to further indigenise our nuclear power programme.

It will not be out of place here to make a brief comment on Nuclear Safety, which has commanded worldwide attention since the unfortunate Chernobyl accident. The PAEC [Pakistan Atomic Energy Commission] is rightly placing high emphasis on Nuclear Safety and Radiation Protection, and on upgrading the already stringent safety requirements on nuclear and radiation industry. I am told the commission has enhanced its safety procedures at establishments like KANUPP to the full satisfaction of IAEA experts. I expect that KANUPP will receive local and international support to enable it not only to continue to work safely and efficiently but also to remain operative for many years beyond its design life.

I would like to take this opportunity to emphasize, once again, the peaceful nature of Pakistan's nuclear programme. In spite of serious resource constraints, we have been able to develop basic infrastructure in terms of technology, training facilities, R&D institutions and production units, for embarking upon a modest nuclear programme and have as a natural corollary, acquired a high degree of technical expertise and capability. However, in consonance with its commitment to non-proliferation, Pakistan would not transfer sensitive nuclear technology to third countries. Our programme is designed to meet our pressing energy requirements and to derive other benefits associated with the development and use of nuclear technology.

It would be unfair and unrealistic to expect Pakistan to unilaterally forego the development of its peaceful nuclear programme and capabilities in response to so-called non-proliferation pleas. We deem it a sovereign right of nations to develop the entire gamut of nuclear technology for peaceful purposes. However, we have taken a political decision to use this technical capability for peaceful purposes only. Pakistan has no interest in nuclear weapons. The only conceivable legitimate function of nuclear weapons is to deter nuclear attack and if nations can be assured of their security, the need for nuclear weapons will not arise.

Nevertheless, with a view to furthering the cause of non-proliferation, Pakistan has made from time to time a number of proposals, which are a matter of international record. These include the latest proposal of a Five Nation Conference. We are ever willing to hold multi-lateral discussions, or enter into a dialogue, towards evolving an effective, equitable and non-discriminatory arrangement for ensuring nuclear non-proliferation in the South Asian region.

Coming back to PINSTECH, I am sure, you are fully cognizant of the enormous challenges ahead of you. The newly emerging technologies will be very demanding in terms of quality manpower. This Institute has the obligation to provide a lead not just in nuclear projects but also, in consort with others, in broader scientific ventures. It is only through a concerted effort guided by the objective of self-reliance that we can achieve meaningful progress and sustainable prosperity and emerge as a strong and developed nation.

In the end let me again offer my sincere felicitations to you all on the Silver Jubilee of PINSTECH and wish you greater successes in future. Your services to the nation are too valuable to be appropriately rewarded. Even so, only as a token of recognition, I am glad to announce a collective honorarium of five million rupees for the PINSTECH employees.

Pakistan paidnabad [Long Live Pakistan]

Explains Quest for Technology

BK2505090392 Islamabad Radio Pakistan Overseas Service in English 0800 GMT 25 May 92

[Text] President Ghulam Ishaq Khan has declared that Pakistan's quest for acquisition of modern technology is motivated formally by its desire to modernize its society, develop national resources, accelerate economic growth, and improve human resources. He was speaking at an inauguration of the redesigned and upgraded research reactor of 10 megawatts indigenously at the Pakistan Institute of Nuclear Science and Technology in Islamabad this morning [sentence as heard]. He made it clear that this desire stemmed from our right as a sovereign state and was rooted in our obligation to give people a better life. The president reaffirmed that Pakistan did not believe in the spread of nuclear weapons and it was among the first nations to (pursue) nuclear nonproliferation even today with no less serious and genuine [stance] than any other country. However, he said the cherished and model goal of nonproliferation must not degenerate into an essay in avoiding a technical (switch) or ploy to eternalize technological imperialism, denying the fruits of science to those who genuinely want to use them for peaceful purposes.

Editorial on Khan's Speech

BK2705115792 Islamabad THE NEWS in English 27 May 92 p 1

[Editorial: "Timely Reiteration"]

[Text] President Ghulam Ishaq Khan had some significant things to say in his speech at the Pakistan Institute

of Nuclear Science and Technology (PINSTECH) on Monday. The occasion was the silver jubilee of research activities undertaken by PINSTECH and the inauguration of a redesigned and upgraded research reactor, for which the president justifiably showered much praise on the organization. The president in fact used the opportunity to make a policy statement on Pakistan's nuclear position. Much of this was reiteration of Islamabad's well-known stance. But given the propaganda that is ceaselessly directed at the country's nuclear program, this reiteration is a welcome one, and should help in clearing some of the confusion that is deliberately created by Pakistan's detractors.

The president stressed the peaceful nature of Pakistan's nuclear program, which he described as having achieved a high degree of technical expertise and capability. In a skillfully-crafted exposition of Pakistan's position, President Ishaq assailed what he called technological imperialism practised by nations seeking to deny "the fruits of science to those genuinely wanting to use them for peaceful purposes." The goal of non-proliferation, he said, must not "degenerate into a technical fix or a ploy to eternalize technological imperialism." He correctly recalled that Pakistan was among the first nations to support non-proliferation, and that commitment remained as strong today as it had been in the past. However he pointed out that the way to achieve nuclear non-proliferation was to address and remove the causes of tensions in inter-state relations and create a sense of security among all through non-discriminatory measures and even-handed policies. Although the president did not name the U.S., this part of his speech was clearly directed at Washington and designed to politely point out its double standards on the nuclear issue. This was not all that he addressed to the Americans. He emphasised that "the bombs that devastated Hiroshima and flattened Nagasaki were not hatched by 'unstable countries' and 'irresponsible minds' of the Third World." This was an allusion to the traditional but hackneyed argument long advanced by Western countries that nuclear technology is unsafe the Third World hands. In this context it is encouraging to note the president's remarks about nuclear safety measures adopted by the Pakistan Atomic Energy Commission.

While much of the president's address reiterated major elements of the country's nuclear policy, it also held out an assurance. Coming from the highest level, this has much significance. Said the president: "In consonance with its commitment to non-proliferation, Pakistan would not transfer sensitive nuclear technology to third countries." This public undertaking should help to allay the fear in certain quarters in the West about Pakistan's nuclear intentions. Having said this, the president also made it plain that Pakistan could not, however, be expected to unilaterally forego the development of its peaceful nuclear program. This should serve as an unmistakable signal that, aid embargo or no aid embargo, the country's sovereign right to pursue its nuclear plans will not be compromised.

Russia Reacts to China's Nuclear Testing**Foreign Ministry Expresses 'Regret'**

LD2205215392 Moscow *ITAR-TASS World Service*
in Russian 2019 GMT 22 May 92

[Text] Moscow, 22 May (ITAR-TASS)—It now is known that at 0900 Moscow time on 21 May, China carried out an underground nuclear explosion at the Lop Nor test-range (approximately 1,000 km from the CIS border). Russian experts estimate that the explosion had a yield of between 1 and 2 megatonnes.

"The Russian Federation's Foreign Ministry expresses regret at the fact that in conditions of a continuing moratorium on nuclear tests by Russia and France, and also some amount of restraint in nuclear weapons testing being shown by other nuclear states, China has embarked on this step, which could seriously complicate the process of improving the international situation and curtailing the arms race," says a statement issued here by Russia's Foreign Ministry. "A noticeable feature is that the yield of the explosion carried out greatly exceeded the threshold which has been adhered to by other nuclear states for many years. It is well known that Russia and the United States are complying with the treaty concluded in 1974 on not exceeding nuclear explosion yields of 150 kilotonnes."

"In advocating the soonest possible halting of all nuclear weapon tests, the Russian side expresses the hope that its efforts in this area will be supported by all nuclear powers, including, of course, China. As a specific step on the way to this goal, we call on China to join the moratorium on nuclear tests, which is at present being adhered to by Russia and France."

Atomic Energy Official Interviewed

PM2705085692 Moscow *KOMSOMOLSKAYA*
PRAVDA in Russian 27 May 92 p 1

[Interview with Valeriy Bogdan, chief of the secretariat of the Russian Federation Ministry of Atomic Energy, by A. Khokhlov; place and date not given. "While the 'Greens' Look for a Bald Deer, Silos for Nuclear Charges Are Being Prepared in Novaya Zemlya"—first two paragraphs are *KOMSOMOLSKAYA PRAVDA* introduction]

[Text] China carried out its latest underground nuclear explosion on 21 May at the Lobnor nuclear testing range in the Xinjiang Uygur Autonomous Region (not far from the Russian border). Swedish seismologists assessed its yield at one megatonne. Russian experts are talking about two megatonnes. In any case, it was one of the most powerful nuclear explosions in the world in recent years. While the two nuclear superpowers, Russia and the United States, are vying with one another in peace-ability, a third nuclear giant is emerging in the world.

Valeriy Bogdan, chief of the secretariat of the Russian Federation Ministry of Atomic Energy, answers *KOMSOMOLSKAYA PRAVDA*'s questions.

[Khokhlov] Have there been explosions of a similar yield in our country?

[Bogdan] Yes, and even bigger. But that was a long time ago. Under the bilateral Treaty Between the USSR and the United States on the Limitation of Underground Nuclear Tests we started exploding charges of a yield of not more than 150 kilotonnes. China has not concluded any similar treaties.

[Khokhlov] The echo of the underground explosion even reached Sweden. Presumably China was testing a new generation of weapon?

[Bogdan] Third-generation nuclear weapons are low-yield weapons. They are distinguished by high accuracy of delivery to the target and, let us say, certain peculiarities in the destruction of targets and enemy manpower. The Lobnor test indicates that China does not yet have such weapons. But that country's scientists are continuing to develop the national nuclear program.

[Khokhlov] Our nuclear testing ranges have been silent for two years now. Will they "speak" again?

[Bogdan] That is a decision for the Russian Supreme Soviet. The position of the military nuclear experts is clear: You cannot move forward in the development of science and weapons expertise without conducting live tests, without real explosions. The Russian president is acquainted with that view. Yeltsin has promised us support and help.

[Khokhlov] Is it necessary to improve nuclear weapons? Russia already has enough, most likely, to destroy the entire globe.

[Bogdan] No other nuclear power has proposed as many peace initiatives and moratoriums as the USSR, and now Russia. And today the only ones maintaining a "peaceful" silence are ourselves and France, which has also declared a moratorium on tests until the end of 1992. The other states belonging to the "nuclear club" are testing and carrying out explosions. China, for instance. A number of other countries will also become nuclear powers soon. Without the development of military science, without live tests, Russia will not be able to guarantee its own security in 10 years or so.

[Khokhlov] How many nuclear testing ranges does Russia currently have?

[Bogdan] The USSR had two. You can forget Semipalatinsk today: Kazakhstan's position is clearly defined—there are to be no tests. Only the Novaya Zemlya range, the northern range, remains.

[Khokhlov] But the ecological situation in the north of Russia is bad enough already, even without any more nuclear explosions.

[Bogdan] It is no worse there, though unfortunately it is no better either, than in many other regions of Russia. The nuclear contribution to pollution is far smaller than what is "depicted" by those who are today, in my view, whipping up passions over the Novaya Zemlya range.

A highly qualified team led by Professor Ramzayev from the St. Petersburg Institute of Radiation Hygiene has been carrying out a study in the north for 30 years. The radiation factor is by no means in first place on the list of factors having a harmful effect on ecology and on people's health. None of the ecology movement's activists has yet had any success in the search for a bald deer or a fish without scales. No such thing exists, although there are plenty of stories about such anomalous phenomena. It is reminiscent of the episode of the "sensational" photograph of the six-legged foal or calf—the "Chernobyl mutant." Until it turned out that this poor freak was photographed several years before the Chernobyl tragedy, in Yugoslavia.

[Khokhlov] When does the unilateral Russian moratorium on underground nuclear tests expire?

[Bogdan] On 26 October 1992. Nuclear scientists are hoping that the Russian Supreme Soviet and the president will have made a final decision by that time. For the moment, ordinary, standard mining operations are continuing at the Novaya Zemlya range, silos are being prepared for the charges. Whether or not permission is granted for an explosion, we are preparing. But the hope remains that Russia will be able to reach agreement with the United States on the total cessation of nuclear tests. That would be the first step toward a nuclear-free world.

Joint Chinese Nuclear Research Center Opens

PM1505113492 Moscow KRASNAYA ZVEZDA
in Russian 15 May 92 p 3

[Report by ITAR-TASS correspondent V. Oreshin:
"Russian-Chinese Center Opens"]

[Text] Beijing, 14 May—A Russian-Chinese nuclear research center has opened in Harbin. This is reported by the XINHUA news agency.

Within the framework of the joint project, which was agreed on in December 1990, the Russian side supplied a neutron radiation source, an activation device for it, and roentgen fluorescent analysis equipment, while the Chinese side supplied the computer system.

Space Agency Defends Rocket Deal With India

OW2105174692 Moscow INTERFAX in English
1607 GMT 21 May 92

[Transmitted via KYODO]

[Text] The contract between India and the Russian Space Agency (Glavkosmos) on installing cryogenic boosters on Indian rockets does not go against international documents on the non-proliferation of rocket technology, Chief of a Glavkosmos department Nikolay Semyonov told IF [INTERFAX]. He said that the contract will withstand the most scrupulous international examination.

Nikolay Semyonov said that cryogenic boosters cannot be used for military purposes because it takes three months to prepare them for launching.

Besides Glavkosmos, the right to secure such a contract with India was contested by the American company Pratt & Whitney and by the French Societe Europeenne de Propulsion. India has chosen cheaper Russian technology, whose cost went down considerably from the 8 billion rupees asked initially.

The American side did not warn the Glavkosmos competitors that they could violate the regime of control over the non-proliferation of nuclear technology, said Nikolay Semyonov.

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